WHITING FIELD NAVAL AIR STATION
MILTON, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CNET

Size: 2,560 Acres

Funding to Date: $14,739,000

Estimated Funding to Complete: $104,007,000

Base Mission: Provides naval aviators training in basic instruments, formation and tactic phases of fixed-wing and propeller-driven aircraft; basic and advanced helicopter training

Contaminants: Pesticides, PCBs, volatile organic compounds, heavy metals, chlorinated hydrocarbons

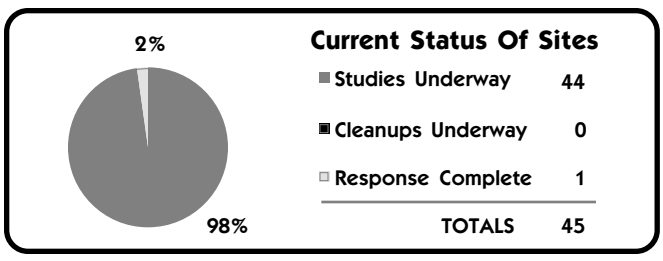
Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	39	High:	19	Not Evaluated:	2
RCRA Corrective Action:	0	Medium:	12	Response Complete:	1
RCRA UST:	6	Low:	11	Total Sites:	45
Total Sites:	45				

NPL

EXECUTIVE SUMMARY

Whiting Field Naval Air Station (NAS) includes the NAS and Outlying Landing Field (OLF) Barin. Whiting Field NAS is located in Florida's northwest coastal area, approximately seven miles north of Milton and 20 miles northeast of Pensacola, Florida. Land bordering Whiting Field NAS consists primarily of agricultural lands to the northwest, residential and forested to the south and southwest; the borders are forested land. Whiting Field NAS is on a 2,560 acre tract of land that is divided into North Field and South Field. The North Field is used as a fixed-wing training base and South Field is used for helicopter training. Typical air station operations that contributed to contaminated sites on the facility include paint stripping, aircraft and aircraft parts cleaning, operation and maintenance of the aircraft and fire fighting training. Site types include disposal areas and pits, storage areas, spill areas, landfills, a disposal and burning area, maintenance area, Underground Storage Tanks (USTs), fuel pits, fire training areas and drainage ditches. Current operations include pollution prevention technologies to prevent further contamination. The driving force for placing the installation on the National Priorities List (NPL) was the discovery of a plume of volatile organic compounds (VOCs) affecting three base drinking water wells. The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY96.

OLF Barin is located in Baldwin County, Alabama, 40 miles southeast of Mobile, Alabama, approximately ten miles northeast of Gulf Shores, Alabama and 35 miles west of Pensacola, Florida. OLF Barin was commissioned in 1942 as a flight training and indoctrination center and closed in 1959. While the air field was in use, numerous types of solvents, oils and fuels were used for cleaning and maintaining airplanes and vehicles; the quantities of contaminants used are unknown. The field remained unused until 1985, when Whiting Field NAS began using the field as a practice landing strip. Little, if any, hazardous materials are now used, generated or disposed by the airfield. The air field no longer conducts airplane and vehicle maintenance or has the capability to supply fuel to them. In 1988, the investigation of OLF Barin was begun in response to the discovery of contamination in two drinking water wells.



The major pathways for contamination from Whiting Field NAS include surface runoff and groundwater movement through the surficial sand and gravel aquifer to the receiving waters of Clear Creek and Big Coldwater Creek. The most significant issue at the NAS is the groundwater contamination. Releases of VOCs have primarily occurred from installation hangar areas and contamination has migrated from the soil into the groundwater. At both Whiting Field NAS and OLF Barin, potential human receptors include base personnel who come into direct contact with contaminants in surface soils and both on and off base users who make contact with contaminants in well water. Area wildlife who drink the contaminated surface water are also potential receptors.

A Technical Review Committee (TRC) for Whiting Field NAS was established in 1989. The TRC for OLF Barin started in 1992. For greater community involvement at Whiting Field NAS, the TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The Administrative Record and Information Repository were established in August 1992 and are maintained at Naval Facilities Engineering Command's (NAVFACs) Southern Division (SOUTHDIV), Charleston, South Carolina.

All the CERCLA sites (33 at NAS and 10 at OLF are now in the Remedial Investigation/Feasibility (RI/FS) phase of the Installation Restoration Program (IRP) and will complete the RI/FS by FY99. At the majority of sites, the Remedial Design (RD) phase has a delayed start date and will not begin until the late FY90s or early FY00s. RD for all sites will be complete by FY05. There will be concurrent Remedial Action (RA) phases occurring. RAs will start for five sites in FY97, all remaining sites will start by FY03 and RAs for all will be complete in FY05. RA is the final phase of the IRP, Response Complete (RC) will follow the RAs.

The six RCRA UST sites will be completed much sooner. One site (UST 3) was complete this year after the RI/FS phase. Four other sites (USTs 2 and 4-6) have a planned completion of FY97 after the RA phase. The RA phase for UST 1 will not be complete until FY92.

For risk reduction, after the discovery of the groundwater contamination at Whiting Field NAS, granular activated carbon (GAC) filters were installed to remove the organic contaminants from the water supply. Although this is not a permanent remedial measure, following the installation of the filters and a monitoring system, the State of Florida allowed the use of the well water by OLF Barin personnel.

WHITING FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The three major groundwater aquifers within the region are the surficial sand and gravel aquifer, from which virtually all local groundwater is drawn; the Upper Floridian limestone aquifer and the lower Floridian limestone aquifer. The Floridian aquifer is separated from the overlying surficial aquifer by a relatively impermeable Pensacola clay, which tends to keep pollutants from migrating to the lower aquifers.

The major pathways for contamination from Whiting Field NAS include surface runoff and groundwater movement through the surficial sand and gravel aquifer to the receiving waters of Clear Creek, which runs next to the perimeter of the base and Big Coldwater Creek. Both Clearwater Creek and Big Coldwater Creek drain south to the Black Water River. On average, over half the flow in the rivers and creeks in the area is from groundwater seepage. Erosion is also a concern because it may expose buried material and allow direct contact with surface runoff.

At OLF Barin the pathway for contamination migration is through surface drainage to the creeks on either side of the base, particularly toward Sandy Creek to the east and southeast of the airfield. Contaminants that reach the creek can travel downstream in surface flow toward Wolf Bay and the Gulf of Mexico. Subsurface contaminants could infiltrate to the local drinking water aquifer in recharge areas.

NATURAL RESOURCES - The most significant issue at Whiting Field NAS is the groundwater contamination. Releases of VOCs have primarily occurred from installation landfills and contamination has migrated from the soil into the groundwater. There are two organic solvent TCE plumes with a benzene, toluene, exobenzene, xylene (BTEX) plume above each. Two of the three supply wells on the base are contaminated with the organic solvent TCE, but activated carbon filters have been installed on both contaminated wells. The groundwater contamination is made more complex by the depth to groundwater (90 to 120 ft) as well as no known confining layers and numerous clay lenses creating perched water tables. Because the organic solvent TCE is a Dense Non-Aqueous Phase Liquid (DNAPL), a "sinker", the existing geology creates a true challenge to the Navy for remediation.

There is a widely spread, rural population in the area surrounding Whiting Field NAS. The private residences in the area have private wells. Aquatic organisms in Clear Creek and Big Coldwater Creek are potential receptors. Bio-accumulation in the tissues of these organisms could be conveyed to predators that inhabit this drainage system. Both creeks are classified by the Florida Department of Environmental Regulations as Class II Water-Recreation, Propagation and Management of Fish and Wildlife. There are many species of plants and animals listed as endangered, threatened or rare that could potentially be present or inhabit the area of Whiting Field NAS but the base area provides little natural habitat for these animals, so few are expected to actually inhabit the base. The animals include: Wood Stork, Eastern Indigo Snake, Alligators, Gopher Tortoises, Red-cockaded Woodpeckers and Peregrine Falcons.

RISK - A Baseline Risk Assessment for Ecological Assessment at OLF Barin, using EPA guidelines for CERCLA sites, was completed in FY94 and a Baseline Risk Assessment Workplan for Whiting Field NAS was done in FY95. A full Baseline Risk Assessment for several CERCLA sites (Sites 1, 2, 9-18 and 31) is currently being conducted.

The Navy completed a Relative Risk Ranking for the installation. Of the 44 sites at the installation (NAS and OLF combined) 19 sites received a "high" Risk Ranking. The overwhelming majority of the sites (18 of the 19 sites) received the high ranking due to contamination of the groundwater and its use as drinking water. Landfills and disposal sites are the greatest offenders. Solvents, waste oil and fuel, waste paint and thinner and general construction debris were deposited on these sites. The groundwater in the areas were contaminated with VOCs, Semi-volatile Organic Compounds (SVOCs), metals, petroleum products and inorganics above Federal and State acceptable levels. The groundwater near the transformer disposal site contained an unacceptable level of the chemical additive PCBs.

The Agency for Toxic Substances and Disease Registry (ATSDR) completed a preliminary visit at Whiting Field NAS in FY95. ASTDR will return in FY96 to do full public health assessment.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - Whiting Field NAS and OLF Barin were proposed for the NPL on January 18, 1994 and were placed on the list on May 31, 1994, with an HRS score of 50.00. The installation has determined that the VOC groundwater plume is affecting two of the three installation drinking water supply wells. The contaminated groundwater was the driving factor for placing the installation on the NPL.

LEGAL AGREEMENTS - The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY96. A Site Management Plan is in the draft form and will be put in place when the FFA is signed.

PARTNERING - A partnering agreement between EPA, State of Florida regulators, the contractors for the station projects, the installation Remedial Project Manager (RPM) and NAVFAC SOUTHDIV RPM has been initiated and is underway but is not formally implemented. The partnering arrangement has already proved beneficial. In order to speed up the phases, Site Inspections (SIs) are being approached with an intended remediation method in mind. SI methods are discussed and then one method is agreed upon by the partnering team members before SI begins. Time is not wasted investigating various remedies that are known to not fit the current situation.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - The TRC for Whiting Field NAS was established in 1989 and held annual meetings through FY95. A TRC for OLF Barin was established in August 1992. With a need for greater community involvement in the base cleanups, the Whiting Field NAS TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The RAB has monthly meetings and has conducted site tours for its members. The membership, solicited from the communities of Milton and Pensacola, Florida, is made up of local government officials, professionals and retirees, school system and installation employees. With the recent formation of the RAB, the community has become involved at the base with a high interest in the groundwater contamination and the possibility of off-site migration and the impact it may have on a large wetland, Clear Creek Floodplain, to the southwest of the base.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) for Whiting Field NAS was completed in October 1990 and is currently being updated. A CRP for OLF Barin was completed in FY93.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in August 1992 and are maintained at the NAVFAC's SOUTHDIV, Charleston, South Carolina.

WHITING FIELD NAS
HISTORICAL PROGRESS

FY85

Sites 1-18 and 29-33 -.Initial Assessment Study (IAS) (equivalent to Preliminary Assessment (PA)) for 23 CERCLA sites at Whiting Field NAS completed.
Site 119-128 -.IAS for 10 CERCLA sites at OLF Barin completed.

FY87

Sites 1-18 and 29-33 - An SI at 23 sites detected groundwater contamination at some sites and concluded that many monitoring wells were not located downgradient of the intended study site. Additional investigation was required to accurately assess hydrogeologic and chemical contamination conditions.

FY88

OLF - Investigation of OLF Barin was begun in response to the discovery of two drinking water wells contaminated with trans-1, 2-dichloroethylene, tetrachlroethylene and trichlorethane. GAC filters were installed to remove the organic contaminants from the water supply.

FY89

Base-wide - To reduce accidental human exposure to contamination, warning signs were posted at hazardous sites.
Sites 1-18 - RI/FS activities began at CERCLA sites at Whiting Field NAS.

FY90

Site 124 - An SI was completed for one OLF Barin site.

FY91

Sites 119-123 and 125-128 - An SI was completed for nine CERCLA sites at OLF Barin.

FY92

OLF - An SI at OLF Barin detected soil contaminated with mercury, lead and methylene chloride. RI/FS activities at the OLF Barin began.
Sites 29-33 and 39 - RI/FS begun at six Whiting Field NAS sites.
Site 39 -.IAS for one CERCLA site at Whiting Field NAS started.
Site 127 - RI/FS started at one OLF Barin site.
USTs 1- 6 - Removal actions of tanks and soil at all the USTs were completed. During the removal action, the installation determined that seven sites had subsurface petroleum contamination and would require further assessment. During the assessment of the UST sites, chlorinated hydrocarbon contaminants and 19 tanks were identified to be present on the sites.

FY94

NAS - Completed several RI/FS Technical Memorandums: NO 1, Geologic Assessment; NO 3, Soils Assessment; and NO 4, Hydrogeologic Assessment.
OLF - A Baseline Risk Assessment and Residential Well Sampling report for OLF Barin were completed. Completed additional RI/FS Technical Memorandum: NO 1, Water and Sediment; NO 2, Geology and Hydrogeology; NO 3, Soils; NO 4, Groundwater and NO 5, Data Summary.
Sites 34-38 -.IAS for five CERCLA sites at Whiting Field NAS started.
Site 8 - Completed RI/FS for Site 8; Florida Department of Environmental Protection issued a No Further Remedial Action Planned (NFRAP) for the site in January 1994.

PROGRESS DURING FISCAL YEAR 1995

FY95

NAS - Three projects scheduled for accelerating cleanup of Whiting Field NAS sites were canceled due to rescinding of funds; two Interim Remedial Actions (IRAs) and a baseline groundwater model project to be used for RD of groundwater cleanup.
NAS - Completed final RI/FS Technical Memorandums; NO 5, Groundwater Assessment and NO 7, Phase 111B Workplan. Numerous interim documents were produced for both Whiting Field NAS and OLF Barin.
NAS - ATSDR preliminary visit was performed at Whiting Field NAS. ASTDR will return in FY96 to do full public health assessment. A Baseline Risk Assessment Workplan for Whiting Field NAS was complete.
OLF - Completed Investigative Derived Waste (IDW) Management Plan and Technical Memorandum Addendum for OLF Barin.
Sites 119 and 124 - Completed Performance Criteria Plans for two OLF Barin sites.
Sites 121, 123, 127 and 128 - Completed No Further Action (NFA) Decision Documents for four OLF Barin sites.
UST 3 - Corrective Action Plan (CAP) for one UST site was completed.
USTs 4-6 - Started Corrective Measures (CM) for three UST sites.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 17, 18, 119 and 124 - IRAs scheduled for completion at CERCLA Sites 17 and 18 for removal of soil contaminated with petroleum. IRAs at Sites 119 and 124 also scheduled for completion.
Site 30 - Groundwater investigation at Site 30 will begin.
Sites 119-128 - RI/FS scheduled for completion at ten OLF Barin sites.
USTs 4-6 - Completion of CM and RC scheduled for three UST sites.
USTs 1, 4-6 - CAP for four UST sites completed.

FY97

Sites 1, 2, 9-18 and 31 - RI reports, RI/FS and Baseline Risk Assessment for 13 CERCLA sites will be complete. Sites 2 and 12 expected to be listed as NFA at that time.
Sites 2 and 31 - RD will begin at two sites.
Site 32 - Groundwater investigation for Site 32 will begin.
Sites 123, 124, 126-128 - RD scheduled for completion and RA phase scheduled to begin at five OLF Barin sites.

WHITING FIELD NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	33		5			1		
SI	33							
RI/FS			10	13	15	1		
RD				5	2	2		29
RA					5			33
IRA			4(4)					
RC					5	1		33
Cumulative Response Complete					13%	15%		100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	1							
INV								
CAP		1	4					1
DES								
IMP			3	1				1
IRA								
RC		1	3	1				1
Cumulative Response Complete		17%	67%	83%				100%